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DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR

L9 L8 and hydroxyhexanoate.ab. 3 L9L8 L7 and coli 33 L8L7 polyhydroxyalkanoate and hydroxyhexanoate 87 L7

DB=USPT; PLUR=YES; OP=OR

L6 polyhydroxyalkanoate and hydroxyhexanoate 54 L6L5 L4 and eutrophus 15 L5L4 L1 and hydroxyhexanoate 19 L4L3 l1 and hexanoate 5 L3L2 5534432 14 L2L1 5292860 22 L1

END OF SEARCH HISTORY

\$\$^STN;HighlightOn= ***;HighlightOff=*** ;

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NEWS 8 Apr 22 Federal Research in Progress (FEDRIP) now available
NEWS 9 Jun 03 New e-mail delivery for search results now available
NEWS 10 Jun 10 MEDLINE Reload
NEWS 11 Jun 10 PCTFULL has been reloaded
NEWS 12 Jul 02 FOREGE no longer contains STANDARDS file segment
NEWS 13 Jul 22 USAN to be reloaded July 28, 2002;
saved answer sets no longer valid
NEWS 14 Jul 29 Enhanced polymer searching in REGISTRY
NEWS 15 Jul 30 NETFIRST to be removed from STN
NEWS 16 Aug 08 CANCERLIT reload
NEWS 17 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18 Aug 08 NTIS has been reloaded and enhanced
NEWS 19 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)
now available on STN
NEWS 20 Aug 19 IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21 Aug 19 The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22 Aug 26 Sequence searching in REGISTRY enhanced
NEWS 23 Sep 03 JAPIO has been reloaded and enhanced
NEWS 24 Sep 16 Experimental properties added to the REGISTRY file
NEWS 25 Sep 16 Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 26 Sep 16 CA Section Thesaurus available in CAPLUS and CA
NEWS 27 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 28 Oct 21 EVENTLINE has been reloaded
NEWS 29 Oct 24 BEILSTEIN adds new search fields
NEWS 30 Oct 24 Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 31 Oct 25 MEDLINE SDI run of October 8, 2002
NEWS 32 Nov 18 DKILIT has been renamed APOLLIT
NEWS 33 Nov 25 More calculated properties added to REGISTRY

NEWS EXPRESS October 14 CURRENT WINDOWS VERSION IS V6.01,
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
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ENTRY

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FULL ESTIMATED COST

0.21

0.21

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FILE 'BIOSIS' ENTERED AT 10:02:41 ON 02 DEC 2002

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=> s crt and PCR and primers

L1 16 CRT AND PCR AND PRIMERS

=> duplicate remove l1

DUPLICATE PREFERENCE IS 'BIOSIS, EMBASE, CAPLUS'

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PROCESSING COMPLETED FOR L1

L2 8 DUPLICATE REMOVE L1 (8 DUPLICATES REMOVED)

=> d l2 1-8 ti

L2 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

TI Construction and validation of a polycompetitor construct (SWITCH) for use in competitive RT- ***PCR*** to assess tachyzoite-bradyzoite interconversion in Toxoplasma gondii

L2 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS

TI RT- ***PCR*** detection of gene expression in blood for disease diagnosis and prognosis

L2 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS
 TI Detection of cauliflower mosaic virus by the polymerase chain reaction:
 testing of food components for false-positive 35S-promoter screening
 results

L2 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS
 TI Quantification of uncoupling protein mRNA expression level in adipose
 tissue by RT- ***PCR*** assay

L2 ANSWER 5 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
 TI Quantitation of T-cell receptor frequencies by competitive ***PCR*** :
 Generation and evaluation of novel TCR subfamily and clone specific
 competitors.

L2 ANSWER 6 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
 TI Multicyclic reverse transcription-polymerase chain reaction assay system
 for quantitation of GB virus-C/hepatitis G virus RNA in serum.

L2 ANSWER 7 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
 TI A rapid and sensitive protocol for competitive reverse transcriptase (
 cRT) ***PCR*** analysis of cellular genes.

L2 ANSWER 8 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
 TI Method for quantitation of low-abundance nerve growth factor mRNA
 expression in human nervous tissue using competitive reverse transcription
 polymerase chain reaction.

=> s boynton/au and pcr

L3 0 BOYNTON/AU AND PCR

=> s boynton/au and pc10

L4 0 BOYNTON/AU AND PC10

=> s pc10 and pcr

L5 4 PC10 AND PCR

=> d 15 1-4

L5 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 2002:208864 BIOSIS
 DN PREV200200208864
 TI Molecular cloning and expression of the proliferating cell nuclear antigen
 gene from the coccolithophorid *Pleurochrysis carterae* (Haptophyceae.
 AU Lin, Senjie (1); Corstjens, Paul L. A. M.
 CS (1) Department of Marine Sciences, University of Connecticut, Groton, CT,
 06340: senjie.lin@uconn.edu USA
 SO Journal of Phycology, (February, 2002) Vol. 38, No. 1, pp. 164-173. print.
 ISSN: 0022-3646.
 DT Article
 LA English

L5 ANSWER 2 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1998:228167 BIOSIS
 DN PREV199800228167
 TI identification of CpG islands hypermethylated in human lung cancer the

arbitrarily primed- ***PCR*** method.

AU Kohno, Takashi; Kawanishi, Masashi; Inazawa, Johji; Yokota, Jun
CS Biol. Div. Natl. Cancer Cent. Res. Inst., 1-1, Tsukiji 5-chome, Chuo-ku,
Tokyo 104 Japan
SO Human Genetics, (March, 1998) Vol. 102, No. 3, pp. 258-264.
ISSN: 0340-6717.
DT Article
LA English

L5 ANSWER 3 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1995:80528 BIOSIS
DN PREV199598094828
TI Detection of P53 tumor-suppressor-gene protein in bladder tumors and
prostate cancer: Possible clinical implications.
AU Kuczyk, M. A.; Serth, J.; Hervatin, C.; Arndt, H.; Derendorf, L.; Thon, W.
F.; Jonas, U.
CS Urologische Klinik der Med. Hochschule, D-30623 Hannover Germany
SO World Journal of Urology, (1994) Vol. 12, No. 6, pp. 345-351.
ISSN: 0724-4983.
DT Article
LA English

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
AN 1990:566430 CAPLUS
DN 113:166430
TI Structural organization of the genes for murine and human leukemia
inhibitory factor. Evolutionary conservation of coding and non-coding
regions
AU Stahl, Juergen; Gearing, David P.; Willson, Tracy A.; Brown, Melissa A.;
King, Julie A.; Gough, Nicholas M.
CS Walter and Eliza Hall Inst. Med. Res., R. Melbourne Hosp., Parkville,
3050, Australia
SO Journal of Biological Chemistry (1990), 265(15), 8833-41
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English

=> d l5 1-4 ab

L5 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB The gene encoding proliferating cell nuclear antigen (PCNA) was isolated
from the marine coccolithophorid microalga *Pleurochrysis carterae* (Braarud
et Fagerland) Christensen (Haptophyceae). Two mRNAs (*Pcpcna1* and *Pcpcna2*)
were identified and contained an identical coding region for 222 amino
acid residues and an untranslated sequence of 302 base pair (*Ut1*) and 246
base pair (*Ut2*), respectively. Comparison between ***PCR*** -derived
genomic DNA fragments and cDNA sequences revealed five introns. The coding
region of *Pcpcna* is similar to counterparts in other organisms and
contains highly conserved functional domains. Phylogenetic analyses
indicated clustering of *Pcpcna* with *pcna* in its haptophyte relative
Isochrysis galbana Parke. A recombinant fusion protein of *Pcpcna*,
overexpressed in *Escherichia coli*, was recognized by the ***PC10***
antibody against rat PCNA. Using RT- ***PCR*** and Western blotting,
Pcpcna was found to be highly transcribed and translated during the
exponential growth phase relative to the stationary growth phase, with a
positive correlation between gene expression and growth rate. It can be

concluded that the pcna is conserved in this coccolithophorid phytoplankton and that its expression is growth stage related.

L5 ANSWER 2 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB DNA hypermethylation is believed to be involved in human carcinogenesis, since it suppresses the transcription of defined genes and is associated with chromosomal instability. In this study, we identified CpG islands that are hypermethylated in human lung cancer by a modified arbitrarily primed-polymerase chain reaction method using genomic DNAs digested with a methylationsensitive restriction enzyme, HpaII, as templates. When we analyzed genomic DNAs from normal lung tissues and non-small cell lung carcinoma cell lines using three arbitrary primers, three DNA fragments were amplified from lung cancer DNAs but not from normal lung DNAs. Restriction mapping and Southern blot analysis revealed that all of these bands were amplified from CpG islands that were hypermethylated in the lung cancer cell lines. These islands were mapped to chromosomes 4q34, 10q26 and 17p13.1-p13.2, respectively, and these chromosomal regions were also hypermethylated in a subset of primary lung tumors in vivo. Thus, diverse chromosomal regions are hypermethylated in lung cancer cells. The results also indicate that this method is simple and effective for screening of CpG islands that are hypermethylated in cancer cells.

L5 ANSWER 3 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB For a variety of human malignancies such as breast cancer and cancer of the prostate, p53 oncoprotein overexpression indicating an alteration of the p53 tumor-suppressor gene has been described as a prognostic factor for a poor clinical outcome. To investigate the overexpression of p53 oncoprotein in transitional-cell carcinoma of the bladder, 58 bladder cancer specimens of different clinical stages and histological grades were investigated using an immunohistochemical approach. A correlation between p53 positivity and tumor stage was observed, with an increase from 38.5% of superficial (T-a) tumors to 83.3% of muscle-invasive (T-3/T-4) tumors staining positively for p53 oncoprotein. Furthermore, an increase from 46.7% of G-1 tumors to 75% of G-3 tumors was observed. In 22 of 25 (87%) informative patients the results of the immunohistochemical staining could be verified by the determination of p53 mutations as detected by polymerase chain reaction (***PCR***)-directed analysis of restriction-fragment-length polymorphisms (RFLP). To determine the prognostic value of p53 immunohistochemistry for the clinical course of superficial bladder cancer, the overexpression of p53 oncoprotein was investigated in 41 patients with superficial bladder tumors (T-1) undergoing complete transurethral tumor resection. The detection of p53 protein was correlated with further clinically important variables such as sex, age, histological grading, former instillation therapy, and immunohistochemical determination of the proliferation rate by staining for PCNA (proliferating-cell nuclear antigen; monoclonal antibody ***PC10***). After a median follow-up period of 54 months, 7 of 8 patients for whom more than 20% of cells stained positively for p53 had disease progression as compared with only 1 of 33 patients who were negative for p53 detection (P lt 0.01; chi-square test). For other urological tumors such as prostate cancer, the results of immunohistochemistry are more difficult to interpret and require definite confirmation on the DNA level.

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS

AB Leukemia inhibitory factor, LIF, is a glycoprotein with multiple activities in both the adult and the embryo. LIF appears to be encoded by

a unique gene in both mouse and man, although the 3'-untranslated region of the mouse LIF gene gives a complex hybridization pattern on Southern blots. The complete nucleotide sequences of both the murine and human LIF genes and their flanking regions (8.7 and 7.6 kilobase pairs, resp.) were detd. and compared. Both genes comprise 3 exons, 2 introns and an unusually long 3'-untranslated region (3.2 kilobase pairs), specifying a mRNA of .apprx.4.1 kilobases. Two start sites of LIF-transcription were detd., by S1-nuclease protection and by a novel approach involving the polymerase chain reaction. S1-nuclease protection revealed a start site 60-64 base pairs upstream of the translational start codon and immediately downstream of a TATA box (TATATAAAT). The ***PCR*** approach identified a second transcriptional start site 160 base pairs 5' of the start codon and adjacent to a "TATA-like" element (CATAATTT). A comparison of the murine and human LIF gene sequences revealed a high degree of conservation in the coding regions and in segments of the untranslated and flanking regions. Seven segments displaying greater than 75% homol. were identified, with the 5' and 3' ends of the transcription unit revealing the highest degree of homol. These conserved regions represents potential cis-acting control elements.

```
=> s PHB(w)POLYMERASE and reductase and thiolase
L6          0 PHB(W) POLYMERASE AND REDUCTASE AND THIOLASE
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---Logging off of STN---
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=> LOG Y
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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	41.59	41.80
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	ENTRY	SESSION
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NEWS	8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS	9	Jun 03	New e-mail delivery for search results now available
NEWS	10	Jun 10	MEDLINE Reload
NEWS	11	Jun 10	PCTFULL has been reloaded
NEWS	12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS	13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS	14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS	15	Jul 30	NETFIRST to be removed from STN
NEWS	16	Aug 08	CANCERLIT reload
NEWS	17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS	18	Aug 08	NTIS has been reloaded and enhanced
NEWS	19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS	20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS	21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS	22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS	23	Sep 03	JAPIO has been reloaded and enhanced
NEWS	24	Sep 16	Experimental properties added to the REGISTRY file
NEWS	25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS	26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS	27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS	28	Oct 21	EVENTLINE has been reloaded
NEWS	29	Oct 24	BEILSTEIN adds new search fields
NEWS	30	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS	31	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS	32	Nov 18	DKILIT has been renamed APOLLIT
NEWS	33	Nov 25	More calculated properties added to REGISTRY
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L1 149 POLYHYDROXYALKANOATE AND HYDROXYHEXANOATE

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L2 85 DUPLICATE REMOVE L1 (64 DUPLICATES REMOVED)

=> s l2 and e(w)coli

L3 9 L2 AND E(W)COLI

=> s l2 and coli

L4 20 L2 AND COLI

=> s l4 and transform?

L5 3 L4 AND TRANSFORM?

=> d l5 1-3

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2002:90234 CAPLUS

DN 136:146150

TI Production of PHA (***polyhydroxyalkanoates***) from polyols using

recombinant E. ***coli*** expressing PHA biosynthetic genes

IN Skarly, Frank A.; Sholl, Martha

PA Metabolix, Inc., USA

SO PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002008428	A2	20020131	WO 2001-US22834	20010720
	W: AU, CA, JP, KR, MX				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	US 2002164729	A1	20021107	US 2001-909574	20010720
PRAI	US 2000-219995P	P	20000721		

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 1999:726140 CAPLUS

DN 132:59793

TI Establishment of a gene transfer system for Rhodococcus opacus PD630 based on electroporation and its application for recombinant biosynthesis of poly(3-hydroxyalkanoic acids)

AU Kalscheuer, R.; Arenskotter, M.; Steinbuchel, A.

CS Institut fur Mikrobiologie, Westfalische Wilhelms-Universitat Munster, Munster, D-48149, Germany

SO Applied Microbiology and Biotechnology (1999), 52(4), 508-515

CODEN: AMBIDG; ISSN: 0175-7598

PB Springer-Verlag

DT Journal

LA English

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 1998:161062 CAPLUS

DN 128:176977

TI Cloning and analysis of the poly(3-hydroxybutyrate-co-3-
hydroxyhexanoate) biosynthesis genes of Aeromonas caviae

IN Toshiaki, Fukui; Yoshiharu, Doi

PA Institute of Physical and Chemical Research (Riken), Japan

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 824148	A2	19980218	EP 1997-113932	19970813
	EP 824148	A3	19991020		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 10108682	A2	19980428	JP 1997-199979	19970725
	JP 3062459	B2	20000710		
	US 5981257	A	19991109	US 1997-910856	19970813
PRAI	JP 1996-214509	A	19960814		
	JP 1997-199979	A	19970725		

=> d 15 1-3 ab

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AB Recombinant processes are provided whereby addnl. genes are introduced into E. *****coli***** which have been genetically engineered to produce PHA (*****polyhydroxyalkanoates*****) so that the improved strains produce PHA homopolymers and copolymers directly from diols. The recombinant prodn. host E. *****coli***** is *****transformed***** with plasmid vectors expressing PHA biosynthetic genes from PHA-producing microbes such as *Ralstonia eutropha* or *Alcaligenes latus*. Genes encoding diol oxidoreductase, aldehyde dehydrogenase, acyl-CoA transferase, acyl-CoA synthetase, P3-ketothiolase, acetoacetyl-CoA reductase, and PHA synthase can be introduced in wild type PHA producers to improve the prodn. of PHA homopolymers and copolymers directly from diol and other alc. feedstocks. Prodn. of poly(4HB, 4-hydroxybutyrate) from 1,4-butanediol, poly(3HB-co-4HB) from glucose and 1,4-butanediol, poly(3HP) from 1,3-propanediol, poly(3HB-co-3HP) from glucose and 1,3-propanediol, and poly(4HB) synthesis from 1,4-butanediol using acyl-coA synthetase are exemplified. In preferred embodiments, PHAs contg. 4-hydroxybutyrate monomers are produced directly from 1,4-butanediol; PHAs contg. 5-hydroxyvalerate are produced from 1,5-pentanediol; PHAs contg. 6-*****hydroxyhexanoate***** (6HH) are produced from 1,3-propanediol; PHAs contg. 3-hydroxypropionate are produced from 1,3-propanediol; PHAs contg. 2-hydroxypropionate are produced from 1,3-propanediol; PHAs contg. 2-hydroxypropionate (lactate) are produced from 1,2-propanediol (propylene glycol); PHAs contg. 2-hydroxyethanoate (glycolate) are produced from 1,2-ethanediol (ethylene glycol). The PHA polymers are readily recovered and industrially useful as polymers or as starting materials for a range of chem. intermediates.

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AB A gene transfer system for *Rhodococcus opacus* PD630 based on electroporation was established and optimized employing the *Escherichia coli* *****coli***** -*Rhodococcus* shuttle vectors pNC9501 and pNC9503 as well as the E. *****coli***** -*Corynebacterium glutamicum* shuttle vector pJC1 as suitable cloning vectors for *R. opacus* PD630, resulting in *****transformation***** efficiencies up to 1.5 .times. 10⁵ CFUs/.mu.g plasmid DNA. Applying the optimized electroporation protocol to the pNC9501-derivs. pAK68 and pAK71 harboring the entire poly(3-hydroxybutyrate) [poly(3HB)] synthesis operon from *Ralstonia eutropha* and the poly(hydroxyalkanoate) (PHA) synthase gene *phaC1* from *Pseudomonas aeruginosa*, resp., recombinant PHA synthetase biosynthesis was established in *R. opacus* PD630 and the TAG-neg. mutant ROM34. Plasmid pAK68 enabled synthesis and accumulation of poly(3HB) in *R. opacus* PD630 and ROM34 during cultivation under storage conditions from 1% (w/v) gluconate, of poly[3HB-co-3-hydroxyvalerate (3HV)] from 0.2% (w/v) propionate and of poly(3HV) from 0.1% (w/v) valerate. Under storage conditions, recombinant strains of PD630 and ROM34 harboring pAK71 were able to synthesize and accumulate PHA of medium-chain-length 3-*****hydroxyhexanoate*****, 3-hydroxyoctanoate, 3-hydroxydecanoate, and 3-hydroxydodecanoate from 0.1% (w/v) hexadecane or octadecane and a copolyester composed of 3-hydroxyheptanoate, 3-hydroxynonanoate, and 3-hydroxyundecanoate from 0.1% (w/v) pentadecane or heptadecane. In the recombinant strains of PD630 and ROM34, the thiostrepton-induced overexpression of a 20 kDa protein was obsd. with its N-terminus exhibiting a homol. of 60% identical

amino acids to TipA from Streptomyces lividans.

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AB The present invention relates to a polyester synthase gene coding for a polypeptide contg. the amino acid sequence of a polyester synthase activity, and a gene expression cassette and recombinant vector and ***transformant*** comprising the polyester synthase gene and either of open reading frames located upstream and downstream of the gene, as well as a process for producing polyester by culturing the ***transformant*** in a medium and recovering polyester from the resulting culture. A 5.0-kbp EcoRV-EcoRI restriction fragment was cloned and analyzed from genomic DNA of Aeromonas caviae, a bacterium producing a copolyester of (R)-3-hydroxybutyrate (3HB) and (R)-3- ***hydroxyhexanoate*** (3HHx) [P(3HB-co-3HHx)] from alkanolic acids or oils. The nucleotide sequence of this region showed a 1782-bp poly(3-hydroxyalkanoate) (PHA) synthase gene (phaC) together with 4 open reading frames and one putative promoter region. The cloned fragments could not only complement PHA-neg. mutants of Alcaligenes eutrophus and Pseudomonas putida, but also confer the ability to synthesize P(3HB-co-3HHx) from octanoate or hexanoate on the mutants' hosts. Furthermore, coexpression of ORF1 and ORF3 genes with phaCac in the A. eutrophus mutant resulted in a decrease in the polyester content of the cells. Escherichia ***coli*** expressing ORF3 showed (R)-enoyl-CoA hydratase activity, suggesting that (R)-3-hydroxyacyl-CoA monomer units are supplied via the (R)-specific hydration of enoyl-CoA in A. caviae. The transconjugant of the A. eutrophus mutant expressing only phaCac effectively accumulated P(3HB-co-3HHx) up to 96 wt. % of the cellular dry wt. from octanoate in one-step cultivation.

=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
22.26	22.47

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-1.86	-1.86

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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Nov 29, 2002 (20021129/UP).

=> file agricola biosis embase caplus

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.30	22.77

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
0.00	-1.86

CA SUBSCRIBER PRICE

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FILE 'BIOSIS' ENTERED AT 11:37:59 ON 02 DEC 2002
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=> d l4 1-10 ti

- L4 ANSWER 1 OF 20 AGRICOLA
TI PCR cloning of ***polyhydroxyalkanoate*** biosynthesis genes from Burkholderia caryophylli and their functional expression in recombinant Escherichia ***coli*** .
- L4 ANSWER 2 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI In vivo evolution of the Aeromonas punctata ***polyhydroxyalkanoate*** (PHA) synthase: Isolation and characterization of modified PHA synthases with enhanced activity.
- L4 ANSWER 3 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI The role of the fatty acid beta-oxidation multienzyme complex from Pseudomonas oleovorans in ***polyhydroxyalkanoate*** biosynthesis: Molecular characterization of the fadBA operon from P. oleovorans and of the enoyl-CoA hydratase genes phaJ from P. oleovorans and Pseudomonas putida.
- L4 ANSWER 4 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Enhanced accumulation and changed monomer composition in ***polyhydroxyalkanoate*** (PHA) copolyester by in vitro evolution of Aeromonas caviae PHA synthase.
- L4 ANSWER 5 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Production of poly(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***) by metabolically engineered Escherichia ***coli*** strains.
- L4 ANSWER 6 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Characterization and cloning of an (R)-specific trans-2,3-enoylacyl-CoA hydratase from Rhodospirillum rubrum and use of this enzyme for PHA production in Escherichia ***coli*** .
- L4 ANSWER 7 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Co-expression of ***polyhydroxyalkanoate*** synthase and (R)-enoyl-CoA hydratase genes of Aeromonas caviae establishes copolyester biosynthesis pathway in Escherichia ***coli*** .
- L4 ANSWER 8 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Formation of poly(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***) by PHA synthase from Ralstonia eutropha.
- L4 ANSWER 9 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Cloning of the Nocardia corallina ***polyhydroxyalkanoate*** synthase gene and production of poly-(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***) and poly-(3-hydroxyvalerate-co-3-

hydroxyheptanoate.

L4 ANSWER 10 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Expression and characterization of (R)-specific enoyl coenzyme A hydratase
involved in ***polyhydroxyalkanoate*** biosynthesis by *Aeromonas*
caviae.

=> d 14 1-10 ibib

L4 ANSWER 1 OF 20 AGRICOLA
ACCESSION NUMBER: 2002:45459 AGRICOLA
DOCUMENT NUMBER: IND23277799
TITLE: PCR cloning of ***polyhydroxyalkanoate***
biosynthesis genes from *Burkholderia caryophylli* and
their functional expression in recombinant *Escherichia*
coli .
AUTHOR(S): Hang, X.; Zhang, G.; Wang, G.; Zhao, X.; Chen, G.Q.
AVAILABILITY: DNAL (QR1.F44)
SOURCE: FEMS microbiology letters, Apr 23, 2002. Vol. 210, No.
1. p. 49-54
Publisher: Amsterdam, The Netherlands : Elsevier
Science B.V.
CODEN: FMLED7; ISSN: 0378-1097
NOTE: Includes references
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

L4 ANSWER 2 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:524844 BIOSIS
DOCUMENT NUMBER: PREV200200524844
TITLE: In vivo evolution of the *Aeromonas punctata*
polyhydroxyalkanoate (PHA) synthase: Isolation and
characterization of modified PHA synthases with enhanced
activity.
AUTHOR(S): Amara, A. A.; Steinbuechel, A.; Rehm, B. H. A. (1)
CORPORATE SOURCE: (1) Institut fuer Mikrobiologie der Westfaelischen
Wilhelms-Universitaet Muenster, Corrensstrasse 3, 48149,
Muenster: rehm@uni-muenster.de Germany
SOURCE: Applied Microbiology and Biotechnology, (August, 2002) Vol.
59, No. 4-5, pp. 477-482. [http://www.link.springer.de/link/](http://www.link.springer.de/link/service/journals/00253/index.htm)
[service/journals/00253/index.htm](http://www.link.springer.de/link/service/journals/00253/index.htm). print.
ISSN: 0175-7598.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 3 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:479112 BIOSIS
DOCUMENT NUMBER: PREV200200479112
TITLE: The role of the fatty acid beta-oxidation multienzyme
complex from *Pseudomonas oleovorans* in
polyhydroxyalkanoate biosynthesis: Molecular
characterization of the *fadBA* operon from *P. oleovorans* and
of the enoyl-CoA hydratase genes *phaJ* from *P. oleovorans*
and *Pseudomonas putida*.

AUTHOR(S): Fiedler, Silke; Steinbuechel, Alexander; Rehm, Bernd H. A.
(1)
CORPORATE SOURCE: (1) Institut fuer Mikrobiologie, Westfaelische
Wilhelms-Universitaet Muenster, Corrensstrasse 3, 48149,
Muenster: rehm@uni-muenster.de Germany
SOURCE: Archives of Microbiology, (August, 2002) Vol. 178, No. 2,
pp. 149-160. <http://www.link.springer.de/link/service/journals/00203/index.htm>. print.
ISSN: 0302-8933.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 4 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:326822 BIOSIS
DOCUMENT NUMBER: PREV200200326822
TITLE: Enhanced accumulation and changed monomer composition in
polyhydroxyalkanoate (PHA) copolyester by in vitro
evolution of *Aeromonas caviae* PHA synthase.
AUTHOR(S): Kichise, Tomoyasu; Taguchi, Seiichi (1); Doi, Yoshiharu
CORPORATE SOURCE: (1) School of Agriculture, Meiji University, 1-1-1
Higashi-mita, Tama-ku, Kawasaki, Kanagawa, 214-8571:
staguchi@isc.meiji.ac.jp Japan
SOURCE: Applied and Environmental Microbiology, (May, 2002) Vol.
68, No. 5, pp. 2411-2419. <http://www.journals.asm.org>.
print.
ISSN: 0099-2240.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 5 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:257195 BIOSIS
DOCUMENT NUMBER: PREV200200257195
TITLE: Production of poly(3-hydroxybutyrate-co-3-
hydroxyhexanoate) by metabolically engineered
Escherichia coli strains.
AUTHOR(S): Park, Si Jae; Ahn, Woo Suk; Green, Phillip R.; Lee, Sang
Yup (1)
CORPORATE SOURCE: (1) Metabolic and Biomolecular Engineering National
Research Laboratory, Department of Chemical Engineering and
BioProcess Engineering Research Center, Korea Advanced
Institute of Science and Technology, 373-1 Kusong-dong,
Yusong-gu, Taejon, 305-701: leesy@mail.kaist.ac.kr South
Korea
SOURCE: Biomacromolecules, (Spring, 2001) Vol. 2, No. 1, pp.
248-254. <http://pubs.acs.org/Biomac>. print.
ISSN: 1525-7797.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 6 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:135776 BIOSIS
DOCUMENT NUMBER: PREV200000135776
TITLE: Characterization and cloning of an (R)-specific
trans-2,3-enoylacyl-CoA hydratase from *Rhodospirillum*
rubrum and use of this enzyme for PHA production in
Escherichia coli.
AUTHOR(S): Reiser, S. E.; Mitsky, T. A.; Gruys, K. J. (1)

CORPORATE SOURCE: (1) Ag Sector, Monsanto Company, 700 Chesterfield Parkway,
St. Louis, MO, 63198 USA
SOURCE: Applied Microbiology and Biotechnology., (Feb., 2000) Vol.
53, No. 2, pp. 209-218.
ISSN: 0175-7598.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

L4 ANSWER 7 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:58110 BIOSIS
DOCUMENT NUMBER: PREV199900058110
TITLE: Co-expression of ***polyhydroxyalkanoate*** synthase
and (R)-enoyl-CoA hydratase genes of Aeromonas caviae
establishes copolyester biosynthesis pathway in Escherichia
coli
AUTHOR(S): Fukui, Toshiaki; Yokomizo, Satoru; Kobayashi, Genta; Doi,
Yoshiharu (1)
CORPORATE SOURCE: (1) Polymer Chemistry Lab., RIKEN Group Res. Inst.
Innovative Earth, Inst. Phys. Chemical Res., Hirosawa 2-1,
Wako-shi, Saitama 351-0198 Japan
SOURCE: FEMS Microbiology Letters, (Jan. 1, 1999) Vol. 170, No. 1,
pp. 69-75.
ISSN: 0378-1097.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 8 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:16619 BIOSIS
DOCUMENT NUMBER: PREV199900016619
TITLE: Formation of poly(3-hydroxybutyrate-co-3-
hydroxyhexanoate) by PHA synthase from Ralstonia
eutropha.
AUTHOR(S): Dennis, D. (1); McCoy, M.; Stangl, A.; Valentin, H. E.; Wu,
Z.
CORPORATE SOURCE: (1) Dep. Biol., James Madison Univ., Harrisonburg, VA 22807
USA
SOURCE: Journal of Biotechnology, (Oct. 8, 1998) Vol. 64, No. 2-3,
pp. 177-186.
ISSN: 0168-1656.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 9 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:495556 BIOSIS
DOCUMENT NUMBER: PREV199800495556
TITLE: Cloning of the Nocardia corallina
polyhydroxyalkanoate synthase gene and production
of poly-(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***)
and poly-(3-hydroxyvalerate-co-3-hydroxyheptanoate.
AUTHOR(S): Hall, Brian; Baldwin, Jennifer; Rhie, Ho Gun; Dennis,
Douglas (1)
CORPORATE SOURCE: (1) Dep. Biol., James Madison Univ., Harrisonburg, VA 22807
USA
SOURCE: Canadian Journal of Microbiology, (July, 1998) Vol. 44, No.
7, pp. 687-691.
ISSN: 0008-4166.

DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English; French

L4 ANSWER 10 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:119884 BIOSIS
DOCUMENT NUMBER: PREV199800119884
TITLE: Expression and characterization of (R)-specific enoyl
coenzyme A hydratase involved in
polyhydroxyalkanoate biosynthesis by *Aeromonas*
caviae.
AUTHOR(S): Fukui, Toshiaki; Shiomi, Naofumi; Doi, Yoshiharu (1)
CORPORATE SOURCE: (1) Polymer Chem. Lab., Inst. Physical Chem. Res., Hirosawa
2-1, Wako-shi, Saitama 351-01 Japan
SOURCE: Journal of Bacteriology, (Feb., 1998) Vol. 180, No. 3, pp.
667-673.
ISSN: 0021-9193.
DOCUMENT TYPE: Article
LANGUAGE: English

=> d 14 11-20 ibib

L4 ANSWER 11 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1997:295211 BIOSIS
DOCUMENT NUMBER: PREV199799594414
TITLE: Functional expression of the PHA synthase gene *phaC1* from
Pseudomonas aeruginosa in *Escherichia coli****
results in poly(3-hydroxyalkanoate) synthesis.
AUTHOR(S): Langenbach, Stephan; Rehm, Bernd H. A.; Steinbuechel,
Alexander (1)
CORPORATE SOURCE: (1) Inst. Mikrobiologie, Westfaelische Wilhelms-Univ.
Muenster, D-48149 Muenster Germany
SOURCE: FEMS Microbiology Letters, (1997) Vol. 150, No. 2, pp.
303-309.
ISSN: 0378-1097.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:90234 CAPLUS
DOCUMENT NUMBER: 136:146150
TITLE: Production of PHA (***polyhydroxyalkanoates***)
from polyols using recombinant *E. coli****
expressing PHA biosynthetic genes
INVENTOR(S): Skarly, Frank A.; Sholl, Martha
PATENT ASSIGNEE(S): Metabolix, Inc., USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002008428	A2	20020131	WO 2001-US22834	20010720

W: AU, CA, JP, KR, MX

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE, TR

US 2002164729 A1 20021107 US 2001-909574 20010720
PRIORITY APPLN. INFO.: US 2000-219995P P 20000721

L4 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:445513 CAPLUS

DOCUMENT NUMBER: 135:179775

TITLE: Biosynthesis of poly(3-hydroxybutyrate-co-3-hydroxyvalerate-co-3-
hydroxyhexanoate) by
metabolically engineered Escherichia ***coli***
strains

AUTHOR(S): Park, Si Jae; Ahn, Woo Suk; Green, Phillip R.; Lee, Sang Yup

CORPORATE SOURCE: Metabolic and Biomolecular Engineering National
Research Laboratory, Department of Chemical
Engineering and BioProcess Engineering Research
Center, Korea Advanced Institute of Science and
Technology, Taejon, 305-701, S. Korea

SOURCE: Biotechnology and Bioengineering (2001), 74(1), 81-86
CODEN: BIBIAU; ISSN: 0006-3592

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:513812 CAPLUS

DOCUMENT NUMBER: 133:134261

TITLE: Manufacture of poly(3-hydroxy-butyrates-3-
hydroxyhexanoate) with transgenic bacteria or
plants

INVENTOR(S): Madison, Lara; Huisman, Gjalt W.; Peoples, Oliver P.

PATENT ASSIGNEE(S): Metabolix, Inc., USA

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000043523	A2	20000727	WO 2000-US1526	20000121
WO 2000043523	A3	20011101		
W: AU, CA, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 2002040485	A1	20020404	US 1999-235875	19990122
EP 1208208	A2	20020529	EP 2000-904479	20000121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 2002534981	T2	20021022	JP 2000-594931	20000121
PRIORITY APPLN. INFO.:			US 1998-72198P P	19980122
			US 1998-72198P P	19980122

US 1999-235875 A 19990122
WO 2000-US1526 W 20000121

L4 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:764202 CAPLUS
DOCUMENT NUMBER: 132:9632
TITLE: Biosynthesis of ***polyhydroxyalkanoate***
biopolymers using genetically engineered organisms
INVENTOR(S): Skraly, Frank A.; Peoples, Oliver P.
PATENT ASSIGNEE(S): Metabolix, Inc., USA
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9961624	A2	19991202	WO 1999-US11417	19990521
WO 9961624	A3	20000217		
W: AU, CA, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2328471	AA	19991202	CA 1999-2328471	19990521
AU 9941995	A1	19991213	AU 1999-41995	19990521
EP 1078068	A2	20010228	EP 1999-925777	19990521
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6323010	B1	20011127	US 1999-316565	19990521
JP 2002516384	T2	20020604	JP 2000-551008	19990521
PRIORITY APPLN. INFO.:			US 1998-86396P	P 19980522
			WO 1999-US11417	W 19990521

L4 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:726140 CAPLUS
DOCUMENT NUMBER: 132:59793
TITLE: Establishment of a gene transfer system for
Rhodococcus opacus PD630 based on electroporation and
its application for recombinant biosynthesis of
poly(3-hydroxyalkanoic acids)
AUTHOR(S): Kalscheuer, R.; Arenskotter, M.; Steinbuchel, A.
CORPORATE SOURCE: Institut fur Mikrobiologie, Westfalische
Wilhelms-Universitat Munster, Munster, D-48149,
Germany
SOURCE: Applied Microbiology and Biotechnology (1999), 52(4),
508-515
CODEN: AMBIDG; ISSN: 0175-7598
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:507642 CAPLUS
DOCUMENT NUMBER: 131:253194

TITLE: Cloning, molecular analysis, and expression of the polyhydroxyalkanoic acid synthase (phaC) gene from *Chromobacterium violaceum*

AUTHOR(S): Kolibachuk, Dana; Miller, Andrea; Dennis, Douglas

CORPORATE SOURCE: Biology Department, James Madison University, Harrisonburg, VA, 22807, USA

SOURCE: Applied and Environmental Microbiology (1999), 65(8), 3561-3565

CODEN: AEMIDF; ISSN: 0099-2240

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:161062 CAPLUS

DOCUMENT NUMBER: 128:176977

TITLE: Cloning and analysis of the poly(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***) biosynthesis genes of *Aeromonas caviae*

INVENTOR(S): Toshiaki, Fukui; Yoshiharu, Doi

PATENT ASSIGNEE(S): Institute of Physical and Chemical Research (Riken), Japan

SOURCE: Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 824148	A2	19980218	EP 1997-113932	19970813
EP 824148	A3	19991020		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 10108682	A2	19980428	JP 1997-199979	19970725
JP 3062459	B2	20000710		
US 5981257	A	19991109	US 1997-910856	19970813
PRIORITY APPLN. INFO.:			JP 1996-214509	A 19960814
			JP 1997-199979	A 19970725

L4 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:497051 CAPLUS

DOCUMENT NUMBER: 127:215720

TITLE: Cloning and analysis of the poly(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***) biosynthesis genes of *Aeromonas caviae*

AUTHOR(S): Fukui, Toshiaki; Doi, Yoshiharu

CORPORATE SOURCE: Polymer Chemistry Lab., Inst. Phys. Chem. Research (RIKEN), Wako, 351-01, Japan

SOURCE: Journal of Bacteriology (1997), 179(15), 4821-4830

CODEN: JOBAA; ISSN: 0021-9193

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

L4 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:451207 CAPLUS
DOCUMENT NUMBER: 121:51207
TITLE: Analysis of polyhydroxyalkanoic acid-biosynthesis
genes of anoxygenic phototrophic bacteria reveals
synthesis of a polyester exhibiting an unusual
composition
AUTHOR(S): Liebergesell, Matthias; Mayer, Frank; Steinbuechel,
Alexander
CORPORATE SOURCE: Inst. Mikrobiol., Georg-August-Univ., Goettingen,
D-37077, Germany
SOURCE: Applied Microbiology and Biotechnology (1993),
40(2-3), 292-300
CODEN: AMBIDG; ISSN: 0175-7598
DOCUMENT TYPE: Journal
LANGUAGE: English

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L4 ANSWER 11 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB The potential of the production of ***polyhydroxyalkanoates*** (PHA),
consisting of medium-chain-length (MCL) hydroxyfatty acids (C-5-C-14), in
recombinant Escherichia ***coli*** was investigated. E ***coli***
mutants affected in fatty acid degradation and fatty acid de novo
synthesis were employed. We established the functional expression of the
Pseudomonas aeruginosa PHA synthase gene phaC1. The coding region of phaC1
was subcloned via PCR into vector pBluescript SK-. The resulting plasmid
pBHR71 enabled functional expression of phaC1 under lac promoter control
and conferred synthesis and accumulation of PHA to various strains of E.
coli. PHA synthesis was analysed with respect to the carbon

source

in various E. ***coli*** fad and fab mutants. This study provided
evidence that intermediates of the fatty acid beta-oxidation can be
directed to PHA synthesis and that 3-hydroxydecanoyl-CoA is the main
substrate for PHA synthase PhaC1 from P. aeruginosa. The E. ***coli***
fadB mutant LS1298 containing plasmid pBHR71 and cultivated in LB medium
containing 0.5% (w/v) decanoate revealed the strongest accumulation of PHA
contributing to about 21% of the cellular dry weight, which was composed
of 2.5 mol% 3- ***hydroxyhexanoate***, 20 mol% 3-hydroxyoctanoate, 72.5
mol% 3-hydroxydecanoate and 5 mol% 3-hydroxydodecanoate.

ACCESSION NUMBER: 1997:295211 BIOSIS
DOCUMENT NUMBER: PREV199799594414
TITLE: Functional expression of the PHA synthase gene phaC1 from
Pseudomonas aeruginosa in Escherichia ***coli***
results in poly(3-hydroxyalkanoate) synthesis.
AUTHOR(S): Langenbach, Stephan; Rehm, Bernd H. A.; Steinbuechel,
Alexander (1)
CORPORATE SOURCE: (1) Inst. Mikrobiologie, Westfaelische Wilhelms-Univ.
Muenster, D-48149 Muenster Germany
SOURCE: FEMS Microbiology Letters, (1997) Vol. 150, No. 2, pp.
303-309.
ISSN: 0378-1097.
DOCUMENT TYPE: Article
LANGUAGE: English

L4 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2002 ACS

AB A 5.0-kbp EcoRV-EcoRI restriction fragment was cloned and analyzed from genomic DNA of *Aeromonas caviae*, a bacterium producing a copolyester of (R)-3-hydroxybutyrate (3HB) and (R)-3- ***hydroxyhexanoate*** (3HHx) [P(3HB-co-3HHx)] from alkanolic acids or oils. The nucleotide sequence of this region showed a 1782-bp poly(3-hydroxyalkanoate) (PHA) synthase gene (phaCac [i.e., the phaC gene from *A. caviae*]) together with 4 open reading frames (ORF1, -3, -4, and -5) and one putative promoter region. The cloned fragments could not only complement PHA-neg. mutants of *Alcaligenes eutrophus* and *Pseudomonas putida*, but also confer the ability to synthesize P(3HB-co-3HHx) from octanoate or hexanoate on the mutants' hosts. Furthermore, coexpression of ORF1 and ORF3 genes with phaCac in the *A. eutrophus* mutant resulted in a decrease in the polyester content of the cells. *Escherichia coli* expressing ORF3 showed (R)-enoyl-CoA hydratase activity, suggesting that (R)-3-hydroxyacyl-CoA monomer units are supplied via the (R)-specific hydration of enoyl-CoA in *A. caviae*. The transconjugant of the *A. eutrophus* mutant expressing only phaCac effectively accumulated P(3HB-co-3HHx) up to 96 wt% of the cellular dry wt. from octanoate in one-step cultivation.

ACCESSION NUMBER: 1997:497051 CAPLUS
DOCUMENT NUMBER: 127:215720
TITLE: Cloning and analysis of the poly(3-hydroxybutyrate-co-3- ***hydroxyhexanoate***) biosynthesis genes of *Aeromonas caviae*
AUTHOR(S): Fukui, Toshiaki; Doi, Yoshiharu
CORPORATE SOURCE: Polymer Chemistry Lab., Inst. Phys. Chem. Research (RIKEN), Wako, 351-01, Japan
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=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	39.02	61.79
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.62	-2.48

STN INTERNATIONAL LOGOFF AT 11:45:49 ON 02 DEC 2002